Goods Movement Study for
US-395 Corridor

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Prepared For:
CALTRANS District 9
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Executive Summary

The California Department of Transportation (Caltrans) District 9 commissioned a goods movement study of the US-395 corridor that was initialized during the summer of 2005. The southern limits of the study area include a portion of US-395 and SR-14 near Ridgecrest. The northern limits of the study area include a portion of US-395 and US-6 up to the Nevada border. Figure 1 shows the study area. The study area extends through Kern County, Inyo County and Mono County. Major cities/towns within the corridor include Ridgecrest, Lone Pine, Independence, Big Pine and Bishop.

The goals of the study were:

- Identify goods movement travel patterns along SR-14, US-395 and US-6
- Identify type of goods and modes of transportation within the corridor
- Develop a better understanding of goods distribution between Southern California and Northern Nevada

The goods movement study included four tasks specifically designed to meet the goals and objectives of the study. They included:

- Conduct truck classification/Axle count survey.
- Conduct truck driver intercept surveys/interviews.
- Conduct local and regional fleet operator surveys/interviews.
- Document and present findings.

Significant findings from the study are summarized below:

Truck Classification Survey

- Medium and heavy duty trucks make up approximately 25% of all vehicles within the corridor
- Passenger vehicles make up the remaining 75% of all vehicles within the corridor
- Average peak period is the midday period between the hours of 10AM and 3PM
- Truck volumes are generally higher in the southbound direction

N

No Scale

Katz, Okitsu & Associates *Planning & Engineering*	Goods Movement Study - US-395 Corridor	Figure 1
		Study Area

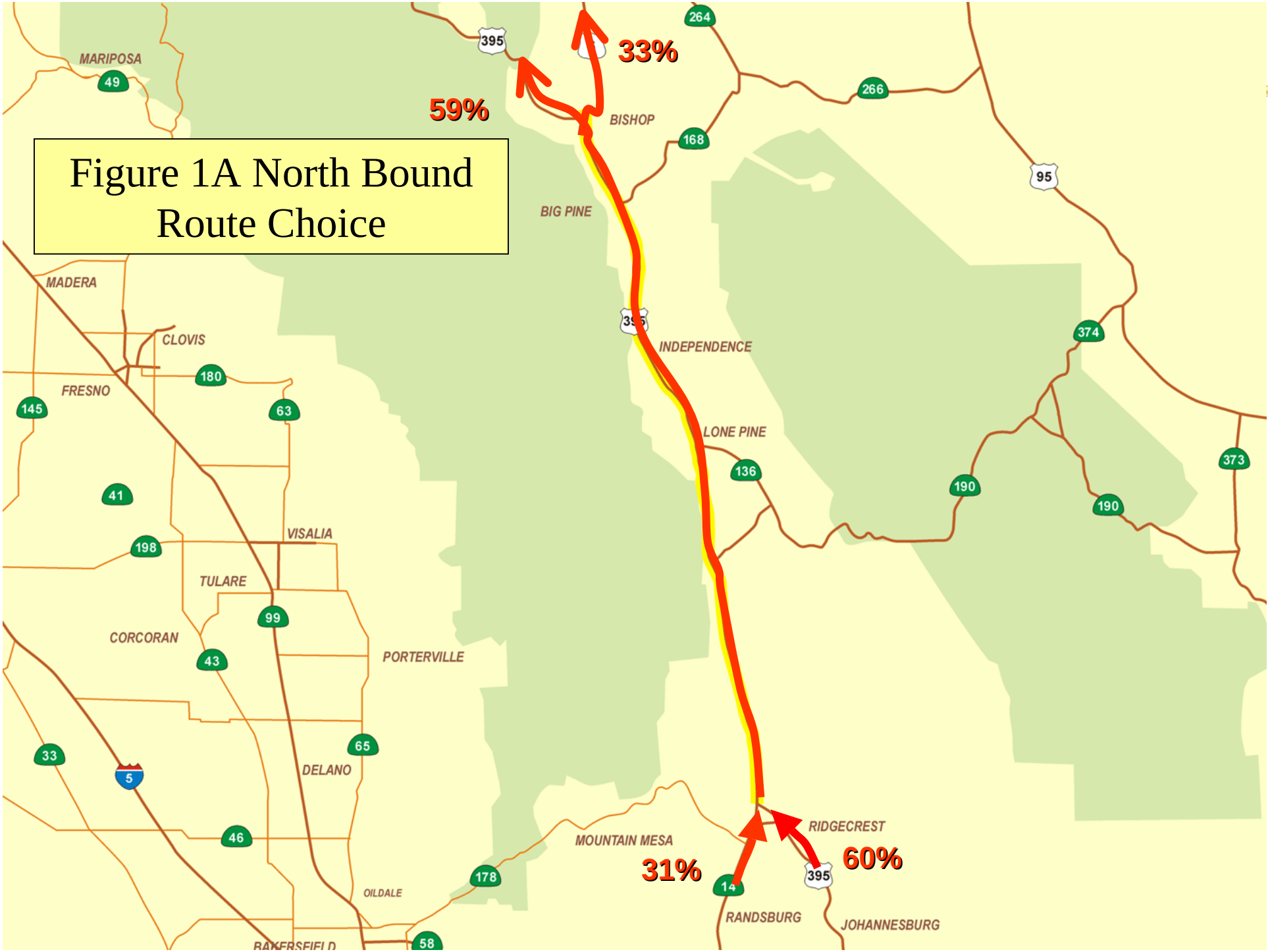


Figure 1A North Bound Route Choice
33%
59%
31%
60%
MARIPOSA
49
395
264
266
BISHOP
168
95
BIG PINE
MADERA
CLOVIS
180
FRESNO
145
63
INDEPENDENCE
374
LONE PINE
136
373
190
190
41
VISALIA
198
TULARE
99
CORCORAN
43
PORTERVILLE
33
5
65
DELANO
46
178
OILDALE
MOUNTAIN MESA
14
RIDGECREST
395
RANDSBURG
JOHANNESBURG
58


Figure 1B South Bound Route Choice
61%
31%
66%
27%
BISHOP
BIG PINE
INDEPENDENCE
LONE PINE
RIDGECREST
MOUNTAIN MESA
RANDSBURG
JOHANNESBURG
MARIPOSA
MADERA
CLOVIS
FRESNO
VISALIA
TULARE
CORCORAN
PORTERVILLE
DELANO
OILDALE
BAKERSFIELD
264
266
168
95
374
373
190
136
180
145
63
41
198
99
43
65
33
5
46
178
395
58
49

Truck Driver Intercept Survey

- A total of 1,061 trucks were surveyed passing through Bishop.
- Five-axle single unit trucks make up approximately 80% of all trucks surveyed.
- Of the total trucks surveyed, almost half (48%) are based in California and 14% based in Nevada.
- Majority of trucks based in California are based in Southern California.
- Majority of trucks based in Nevada are based in Reno and Sparks.
- The majority of trucks (93%) traveling the southbound direction are destined for Southern California.
- The majority of southbound trucks surveyed used US-395 (61%) as opposed to US-6 (31%).
- Majority of northbound trucks surveyed are destined for Nevada (60%) and California (21%).
- Majority of northbound trucks surveyed used US-395 (60%) as opposed to SR-14 (31%).
- The most common commodity carried along the US-395 Corridor includes:
    - miscellaneous manufacturing products
    - general freight
    - food/kindred products
    - farm products
    - empty containers.

Local Fleet Operator Surveys

- Local operators rarely travel outside of the study area.
- Local fleets usually include use of smaller trucks including pick-up trucks and vans.
- Most local fleets are concentrated in populated areas (i.e. Bishop, Independence).
- Local operators/businesses are usually served by regional carriers on a weekly/monthly basis - private fleet vehicles are then used for conducting local deliveries.

- Typical local fleet operators include: cement/lumber/building materials, propane/fuel, furniture/appliance, newspaper distribution, hardware/auto parts.

- Approximately 1/3 of local fleet operations are seasonal where winter season affects operations/business (e.g., concrete plant).

- Most local operators are equipped to handle adverse weather - deliveries are usually conducted during adverse weather conditions unless there is a mandatory road closure.

Regional Fleet Operator Surveys

- Regional fleets surveyed included: FedEx Express, FedEx Freight, Conway Western Express, Swift and Schneider National.

- Parcel/less-than-truckload (i.e. FedEx) typically has equipment and drivers based within the study area.

- Truckload carriers (i.e. Swift, Knight) do not have equipment base within study area and typically do not make stops within the study area.

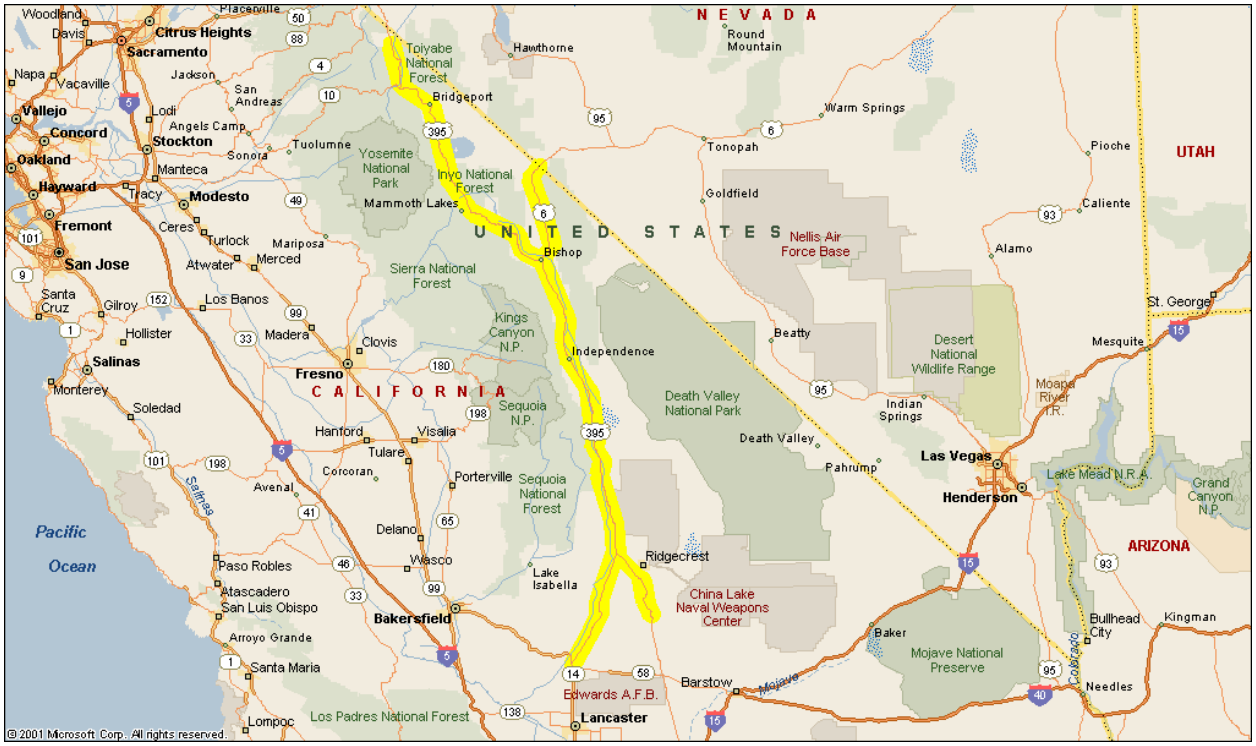
- Regional commercial fleets are equipped to operate in adverse weather - deliveries are usually conducted during adverse weather conditions unless there is a mandatory road closure.

- Most regional trucks use US-395 north of Bishop.

Three presentations of the Goods Movement Study results were presented to local government agencies in the corridor, including the Mono County Local Transportation Commission on April 10, 2006, Inyo County Local Transportation Commission on April 19, 2006 and the Eastern California Transportation Planning Partnership on May 19, 2006.

Introduction

The US-395, SR-14 and US-6 highways spans through Mono, Inyo, and Kern Counties. The highways form a branched, north-south route on the eastern side of the Sierra Nevada.



This network provides the only major truck route up and down the eastern portion of California, connecting eastern Sierra communities with each other, with sources of inbound goods, and with markets for regional production.

Understanding the pattern of actual truck usage on this route is critical for long-term planning and policy choices.

Caltrans District 9 conducted three types of studies to better understand goods/freight movement through the corridor:

- **Truck Classification/Axle Count Study** – Conduct week-long truck classification counts along the study routes. This provides the average number of trucks by type and by weight that utilizes the study corridor on a typical summer week.

- **Truck Driver Surveys Study** – Conduct truck driver surveys to provide insight on intermediate origins and destinations of trucks and goods utilizing the corridor. This also provides an indication of the type of goods and major trucking company operators along the corridor.

- **Goods Origin and Destination Study** – Identify trucking industry contacts and conduct surveys which will yield information on relevant trucking industry routing practices and operating conditions.

This report summarizes the data collected from the three studies described above.

Truck Classification Survey

Vehicle classification counts were conducted from September 19th through September 25 of 2005. Three locations were selected for the count effort. The three locations are:

- US-395 near Route 168
- US-395 near Ed Powers Road
- US-6 near Silver Canyon Road

Figure 2 illustrates the three locations listed above. Traffic count machines were installed to collect vehicle classification data for one full-week. The results of the count surveys are provided in Appendix A. The count data provides hourly vehicle classification results by day and by direction at each of the three count locations. Tables 1, 2 and 3 summarize the results of the count data. The results show the average daily traffic by types and by direction. The 13 types of vehicles are consistent with Caltrans vehicle classification which is described in detail in Appendix B. Based on Caltrans' classification definitions, types 1-4 are classified as passenger vehicles and types 5-13 are categorized as medium and heavy-duty trucks.

Table 1: US-395 Near Route 168 Count Data Summary

DIR/CLASS	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
NORTHBOUND	1,325	10,666	1,876	40	786	619	55	436	835	576	138	32	216	17,600
SOUTHBOUND	3,460	7,476	1,660	73	1,358	1,680	58	658	677	566	97	23	267	18,053
Total	4,785	18,142	3,536	113	2,144	2,299	113	1,094	1,512	1,142	235	55	483	35,653

Average Passenger Vehicles = 75%
Average Heavy Duty Truck = 25%

Table 2: US-395 Near Ed Powers Road Count Data Summary

DIR/CLASS	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
NORTHBOUND	3,181	11,707	2,804	96	1,729	2,428	57	584	463	279	107	15	121	23,571
SOUTHBOUND	1,158	17,275	4,273	126	2,496	412	23	1,140	752	190	133	40	107	28,125
Total	4,339	28,982	7,077	222	4,225	2,840	80	1,724	1,215	469	240	55	228	51,696

Average Passenger Vehicles = 79%
Average Heavy Duty Truck = 21%

Table 3: US-6 Near Silver Canyon Road Count Data Summary

DIR/CLASS	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
NORTHBOUND	66	3,474	926	17	807	74	3	196	976	136	32	21	67	6,789
SOUTHBOUND	97	3,620	870	15	680	46	1	188	1,034	24	32	6	14	6,627
Total	163	7,094	1,796	32	1,487	120	4	384	2,010	160	64	27	81	13,416

Average Passenger Vehicles = 68%
Average Heavy Duty Truck = 32%

Katz, Okitsu & Associates *Planning & Engineering*	Goods Movement Study - US-395 Corridor	Figure 2
		Vehicle Classification Count Locations

Truck Driver Intercept Survey

A truck driver intercept survey was conducted in Bishop along US-395 from September 18th to September 20th, 2005. The continuous survey lasted 48 consecutive hours. The survey included in-person interviews with truck drivers in both the northbound and southbound directions. During the 48-hour duration, a total of 1,061 trucks surveys were conducted.

The focus of the survey was on trucks traveling along US-395 during that particular date and time. The purpose of the survey was to collect user information including:

- Type of trucks
- Where the trucks are based
- Origin of trip
- Destination of trip
- Route used
- Type of goods carried
- Frequency of travel

A survey form was developed specifically for this task. Figure 3 shows the survey form administered. The tabulated results for the 1,061 surveys were provided electronically and submitted as a separate item to Caltrans.

Of the total 1,061 surveys conducted, 507 were in the northbound direction and 554 were in the southbound direction. The results of the survey are summarized below. The questions numbers corresponds with the questions listed in Figure 3.

1. Type of Truck:

Northbound			Southbound			Both Dir		
Truck Type	Response	Pecent	Truck Type	Response	Pecent	Truck Type	Response	Pecent
1	0	0.0%	1	0	0.0%	1	0	0.0%
2	0	0.0%	2	0	0.0%	2	0	0.0%
3	1	0.2%	3	0	0.0%	3	1	0.1%
4	0	0.0%	4	0	0.0%	4	0	0.0%
5	19	3.7%	5	8	1.4%	5	27	2.5%
6	5	1.0%	6	11	2.0%	6	16	1.5%
7	2	0.4%	7	1	0.2%	7	3	0.3%
8	8	1.6%	8	4	0.7%	8	12	1.1%
9	382	75.3%	9	473	85.4%	9	855	80.6%
10	18	3.6%	10	17	3.1%	10	35	3.3%
11	61	12.0%	11	35	6.3%	11	96	9.0%
12	3	0.6%	12	1	0.2%	12	4	0.4%
13	8	1.6%	13	4	0.7%	13	12	1.1%
total	**507**	**100.0%**		**554**	**100.0%**		**1061**	**100.0%**

The truck type numbering designation corresponds with Caltrans' truck classification. Types 1-4 are motorcycles, passenger cars, larger passenger trucks/vans and busses, respectively. Types 5-13 are considered heavy duty trucks. Appendix B summarizes the 13 types of vehicles.

Figure 3: Truck Driver Intercept Survey Form

CALTRANS INTERREGIONAL GOODS MOVEMENT
TRUCK ORIGIN/DESTINATION SURVEY

Date: _____ Direction: NB:_____ SB: _____
Time: _____ Surveyor: _____

1. Type of Truck (surveyor - see classification chart): _____

2. Where is your truck based? City: _____ State: _____

3. Where did you begin this trip leg (origin)? City_____ State_____

4. Which route did you take to get here?

NB: SR-14____ US-395_____ Other _____

SB: US-6 ____ US-395_____ Other _____

5. Where is your destination? City_____ State _____

6. Which route are you planning to take to your destination?

NB: US-6 ___ US-395_____ Other _____

SB: SR-14____ US-395_____ Other _____

7. What are you carrying (see STCC list)? _____

Surveyor: If hazardous materials, note down placard number _____

8. Why did you or your dispatcher choose this route?

☐ Truck based on this route	☐ Least congestion
☐ Trip stop/start on this route	☐ Easier grades or road conditions
☐ Shortest/fastest route	☐ Personal business on this route
☐ Better weather	☐ Other_____

9. On average, how many times do you use this route?

Per day: _____ Per Week:_____ Per Month:_____

10. Any suggestions to improve transportation for truckers in the area?

As shown, approximately 80% of the trucks surveyed are type 9 which are typically five axle single-unit trucks. The next highest type of trucks surveyed were type 11 (five axle multi-unit) at approximately 9%.

2. Where is your truck based? City: _____ State: _____

Northbound			Southbound			Total Both Direction		
State	**Response**	**Percent**	**State**	**Response**	**Percent**	**State**	**Response**	**Percent**
Alabama	1	0.2%	Alabama	1	0.2%	Alabama	2	0.2%
Arizona	26	5.1%	Arizona	17	3.1%	Arizona	43	4.1%
CA	318	62.7%	Arkansas	1	0.2%	Arkansas	1	0.1%
Georgia	2	0.4%	CA	195	35.2%	CA	513	48.4%
Idaho	15	3.0%	Colorado	1	0.2%	Colorado	1	0.1%
Illinois	3	0.6%	Florida	3	0.5%	Florida	3	0.3%
Indiana	3	0.6%	Georgia	2	0.4%	Georgia	4	0.4%
Iowa	1	0.2%	Idaho	55	9.9%	Idaho	70	6.6%
Mass	1	0.2%	Indiana	7	1.3%	Illinois	3	0.3%
Minn	3	0.6%	Iowa	2	0.4%	Indiana	10	0.9%
Missouri	2	0.4%	Kansas	3	0.5%	Iowa	3	0.3%
Montana	5	1.0%	Kentucky	1	0.2%	Kansas	3	0.3%
Nebraska	3	0.6%	Minn	2	0.4%	Kentucky	1	0.1%
Nevada	47	9.3%	Missouri	2	0.4%	Mass	1	0.1%
New York	1	0.2%	Montana	2	0.4%	Minn	5	0.5%
Ohio	3	0.6%	Nebraska	9	1.6%	Missouri	4	0.4%
Oklahoma	2	0.4%	Nevada	105	19.0%	Montana	7	0.7%
Oregon	10	2.0%	New York	3	0.5%	N. Carolina	2	0.2%
Tenn	2	0.4%	N. Carolina	2	0.4%	N. Dakota	1	0.1%
Texas	5	1.0%	N. Dakota	1	0.2%	Nebraska	12	1.1%
Utah	1	0.2%	Ohio	4	0.7%	Nevada	152	14.3%
Washingto	17	3.4%	Oklahoma	4	0.7%	New York	4	0.4%
Wisconsin	1	0.2%	Oregon	36	6.5%	Ohio	7	0.7%
Wyoming	1	0.2%	Penn	4	0.7%	Oklahoma	6	0.6%
DNA	34	6.7%	Tenn	6	1.1%	Oregon	46	4.3%
Total	**507**	**100.0%**	Texas	8	1.4%	Penn	4	0.4%
			Utah	10	1.8%	Tenn	8	0.8%
			Washingto	37	6.7%	Texas	13	1.2%
			Wisconsin	1	0.2%	Utah	11	1.0%
			Canada	4	0.7%	Washingto	54	5.1%
			DNA	26	4.7%	Wisconsin	2	0.2%
			Total	**554**	**100.0%**	Wyoming	1	0.1%
						Canada	4	0.4%
						DNA	60	5.7%
						Total	**1061**	**100.0%**

DNA: Did Not Answer

Results of Question 2 indicate that almost half of the trucks surveyed are based in California (48%) and approximately 14% are based in Nevada.

2. Where is your truck based? City: _____ State: _____

Within California

Northbound			Southbound			Total Both Direction		
City	**Response**	**Percent**	**City**	**Response**	**Percent**	**City**	**Response**	**Percent**
Fontana Count	44	13.8%	Bishop Count	42	21.5%	Bishop Count	63	12.3%
Los Angeles Count	24	7.5%	Fontana Count	13	6.7%	Fontana Count	57	11.1%
Bishop Count	21	6.6%	Los Angeles Count	13	6.7%	Los Angeles Count	37	7.2%
Ontario Count	15	4.7%	Bakersfield Count	6	3.1%	Ontario Count	19	3.7%
Pomona Count	10	3.1%	Pomona Count	5	2.6%	Pomona Count	15	2.9%
Bakersfield Count	7	2.2%	City of Industry Count	4	2.1%	Bakersfield Count	13	2.5%
Riverside Count	7	2.2%	Ontario Count	4	2.1%	Commerce Count	9	1.8%
Whittier Count	7	2.2%	Red Bluff Count	4	2.1%	Long Beach Count	9	1.8%
Adelanto Count	6	1.9%	Atlanto Count	3	1.5%	Riverside Count	9	1.8%
Commerce Count	6	1.9%	Carlsbad Count	3	1.5%	Rancho Cucamonga Count	8	1.6%
Hesperia Count	6	1.9%	Chino Count	3	1.5%	City of Industry Count	7	1.4%
Long Beach Count	6	1.9%	Commerce Count	3	1.5%	Gardena Count	7	1.4%
Rancho Cucamonga Co	6	1.9%	Kerman Count	3	1.5%	Hesperia Count	7	1.4%
Rialto Count	6	1.9%	Long Beach Count	3	1.5%	Lancaster Count	7	1.4%
Gardena Count	5	1.6%	Delano Count	2	1.0%	Rialto Count	7	1.4%
La Mirada Count	5	1.6%	El Monte Count	2	1.0%	South Gate Count	7	1.4%
Lancaster Count	5	1.6%	Forest Hill Count	2	1.0%	Whittier Count	7	1.4%
South Gate Count	5	1.6%	Gardena Count	2	1.0%	Adelanto Count	6	1.2%
Compton Count	4	1.3%	Huntington Beach Count	2	1.0%	La Mirada Count	6	1.2%
Lucerne Valley Count	4	1.3%	Lancaster Count	2	1.0%	Lucerne Valley Count	6	1.2%
Mojave Count	4	1.3%	Lone Pine Count	2	1.0%	Chino Count	5	1.0%
85 other cities < 1%			Lucerne Valley Count	2	1.0%	Compton Count	5	1.0%
			Manteca Count	2	1.0%	Red Bluff Count	5	1.0%
			Rancho Cucamonga Count	2	1.0%	***83 other cities < 1%***		
			Reno Count	2	1.0%			
			Riverside Count	2	1.0%			
			Sacramento Count	2	1.0%			
			San Diego Count	2	1.0%			
			Santa Fe Springs Count	2	1.0%			
			South Gate Count	2	1.0%			
			Tulare Count	2	1.0%			
			Valencia Count	2	1.0%			
			Wilmington Count	2	1.0%			
			48 other cities < 1%					

Within Nevada

Northbound			Southbound			Total Both Direction		
City	**Response**	**Percent**	**City**	**Response**	**Percent**	**City**	**Response**	**Percent**
Carson City Count	3	6.4%	Caldwell Count	1	1.0%	Caldwell Count	1	0.7%
Fallon Count	2	4.3%	Carson City Count	3	2.9%	Carson City Count	6	3.9%
Fernly Count	1	2.1%	Fallon Count	2	1.9%	Fallon Count	4	2.6%
Hawthorne Count	1	2.1%	Fernly Count	4	3.8%	Fernly Count	5	3.3%
Las Vegas Count	4	8.5%	Hawthorne Count	1	1.0%	Hawthorne Count	2	1.3%
Reno Count	18	38.3%	Las Parks Count	1	1.0%	Las Parks Count	1	0.7%
Silver Springs Count	1	2.1%	Las Vegas Count	4	3.8%	Las Vegas Count	8	5.3%
Sparks Count	13	27.7%	Lovelock Count	2	1.9%	Lovelock Count	2	1.3%
Tonopah Count	1	2.1%	Reno Count	51	48.6%	Reno Count	69	45.4%
Welbby Count	1	2.1%	Silver Springs Count	2	1.9%	Silver Springs Count	3	2.0%
DNA	2	4.3%	Sparks Count	28	26.7%	Sparks Count	41	27.0%
Grand Count	47	100.0%	Stead Count	1	1.0%	Stead Count	1	0.7%
			Wellington Count	2	1.9%	Tonopah Count	1	0.7%
			Winnemucca Count	2	1.9%	Welbby Count	3	2.0%
			DNA	1	1.0%	Winnemucca Count	2	1.3%
			Grand Count	105	100.0%	DNA	3	2.0%
						Grand Count	152	100.0%

Of the 48% of truck based in California, approximately 12% were based in Bishop. However, the majority of trucks surveyed were based in Southern California. Of the 14.3% of trucks based in Nevada, the majority are based in Reno (45%) and Sparks (27%).

3. Where did you begin this trip leg (origin)? City_____ State_____

Northbound			Southbound		
State	**Response**	**Percent**	**State**	**Response**	**Percent**
Alabama Count	1	0.2%	California Count	115	20.8%
Arizona Count	3	0.6%	Canada Count	1	0.2%
California Count	443	87.4%	Georgia Count	1	0.2%
Georgia Count	2	0.4%	Idaho Count	39	7.0%
Idaho Count	2	0.4%	Indiana Count	7	1.3%
Nevada Count	6	1.2%	Montana Count	1	0.2%
Ohio Count	1	0.2%	Nevada Count	301	54.3%
Tennessee Count	1	0.2%	North Carolina Count	1	0.2%
Texas Count	2	0.4%	Oregon Count	24	4.3%
DNA	46	9.1%	Pennsylvania Count	1	0.2%
Total	***507***	***100.0%***	South Carolina Count	1	0.2%
			Tennessee Count	1	0.2%
			Utah Count	2	0.4%
			Washington Count	28	5.1%
			DNA	31	5.6%
			Total	***554***	***100.0%***

Northbound			Southbound		
Cities Within California	**Response**	**Percent**	**Cities Within California**	**Response**	**Percent**
Fontana Count	65	21.8%	Bishop Count	64	55.7%
Los Angeles Count	42	14.1%	Mammoth Count	6	5.2%
Ontario Count	28	9.4%	Bakersfield Count	4	3.5%
Riverside Count	12	4.0%	Fontana Count	3	2.6%
Adelanto Count	11	3.7%	Lone Pine Count	3	2.6%
Bishop Count	10	3.4%	Antelope Valley Count	2	1.7%
Long Beach Count	10	3.4%	Atlanto Count	2	1.7%
Pomona Count	10	3.4%	Reno Count	2	1.7%
Bakersfield Count	9	3.0%	Sacramento Count	2	1.7%
Hesperia Count	9	3.0%	Waker Count	2	1.7%
Rancho Cucamonga Count	9	3.0%	25 cities < 1%		
Rialto Count	9	3.0%			
Lone Pine Count	8	2.7%	**Cities Within Nevada**	**Response**	**Percent**
Mojave Count	7	2.3%	Reno Count	155	51.7%
Victorville Count	7	2.3%	Sparks Count	59	19.7%
Whittier Count	7	2.3%	Fernly Count	19	6.3%
Commerce Count	6	2.0%	Hawthorne Count	13	4.3%
Lancaster Count	6	2.0%	Carson City Count	6	2.0%
San Bernardino Count	6	2.0%	Winnemucca Count	6	2.0%
San Diego Count	6	2.0%	Fallon Count	4	1.3%
South Gate Count	6	2.0%	Patrick Count	4	1.3%
Chino Count	5	1.7%	29 cities < 1%		
City of Industry Count	5	1.7%			
Compton Count	5	1.7%			
95 cities < 1%					

The results of Question 3 indicate that most northbound trip origins are within California (87%) while most southbound trip origins are in Nevada (54%) followed by California (20%). Of the 87% northbound trips originating in California, the majority are from Southern California (i.e. Fontana, Los Angeles, Ontario and Riverside). Of the 54% of southbound trips originating from Nevada, the majority of trips are from Reno and Sparks, 52% and 20%, respectively.

4. Which route did you take to get here?

NB: SR-14 159 (31%) US-395 303 (60%) Other 45 (9%)
SB: US-6 171 (31%) US-395 338 (61%) Other 45 (9%)

The results show that truck drivers in both directions prefer to use US-395 (approximately 60%) as opposed to US-6 and SR-14 (31%). The use of US-395 in Kern County likely reflects the heavy concentration of warehousing/distribution centers in San Bernardino and Riverside Counties.

5. Where is your destination? City_____ State _____

Northbound			Southbound		
State	**Response**	**Percent**	**State**	**Response**	**Percent**
California Count	104	20.5%	Arizona Count	3	0.5%
Colorado Count	1	0.2%	California Count	513	92.6%
Idaho Count	21	4.1%	Texas Count	4	0.7%
Indiana Count	1	0.2%	DNA	34	6.1%
Nevada Count	303	59.8%	***Total***	***554***	***100.0%***
New York Count	1	0.2%			
Oregon Count	13	2.6%			
Washington Count	20	3.9%			
Wyoming Count	1	0.2%			
DNA	42	8.3%			
Total	***507***	***100.0%***			

Results from Question 5 show that the majority of trucks in the northbound direction are destined for Nevada (60%) and California (20%). In the southbound direction, the overwhelmingly majority of trucks are destined for California (93%).

Of the 60% northbound trips destined for Nevada, the majority are destined for Reno (62%) and Sparks (20%). Of the 20% northbound trips destined within California, the majority of trips are destined for Bishop (63%) and Mammoth Lakes (20%). Of the 92% southbound trips destined for California, the majority are destined for cities located in Southern California (i.e. Fontana, Los Angeles, Ontario and Riverside).

6. Which route are you planning to take to your destination?

NB: US-6 167 (33%) US-395 299 (59%) Other 41 (8%)
SB: SR-14 150 (27%) US-395 366 (66%) Other 38 (8%)

The results show that truck drivers in both directions prefer to use US-395 (approximately 59%-66%) as opposed to US-6 (33%) and SR-14 (27%). The use of US-395 in Kern County likely reflects the heavy concentration of warehousing/distribution centers in San Bernardino and Riverside Counties.

Question 5 (Continued)

Northbound			Southbound		
Cities Within California	**Response**	**Percent**	**Cities Within Californ**	**Response**	**Percent**
Bishop Count	65	62.5%	Los Angeles Count	101	19.7%
Mammoth Count	21	20.2%	Fontana Count	44	8.6%
Bridgeport Count	3	2.9%	Riverside Count	19	3.7%
Lawes Count	3	2.9%	Ontario Count	18	3.5%
Boise Count	1	1.0%	City of Industry Count	16	3.1%
Carson City Count	1	1.0%	San Diego Count	16	3.1%
Chino Count	1	1.0%	Bakersfield Count	15	2.9%
Hammel Count	1	1.0%	Bishop Count	11	2.1%
Hermiston Count	1	1.0%	Lone Pine Count	11	2.1%
Lone Lake Count	1	1.0%	Long Beach Count	11	2.1%
Reno Count	1	1.0%	Mira Loma Count	10	1.9%
Susanville Count	1	1.0%	Santa Fe Springs Coun	10	1.9%
Truckee Count	1	1.0%	Vernon Count	10	1.9%
Weed Count	1	1.0%	Anaheim Count	8	1.6%
Yaccomo Park Count	1	1.0%	DNA	8	1.6%
Yosemite Count	1	1.0%	Mohave Count	6	1.2%
Total	104	100.0%	San Bernardino Count	6	1.2%
			Carson Count	5	1.0%
Cities Within Nevada	**Response**	**Percent**	Commerce Count	5	1.0%
Reno Count	188	62.0%	Orange Count	5	1.0%
Sparks Count	52	17.2%	Rialto Count	5	1.0%
Carson City Count	15	5.0%	103 cities <1%		
Fernly Count	8	2.6%			
Fallon Count	6	2.0%			
Empire Count	4	1.3%			
DNA	4	1.3%			
Dayton Count	3	1.0%			
Laws Count	3	1.0%			
Silver Springs Count	2	0.7%			
Tonopah Count	2	0.7%			
Austin Count	1	0.3%			
Battle Mountain Count	1	0.3%			
Carlen Count	1	0.3%			
Diamond Valley Count	1	0.3%			
Ely Count	1	0.3%			
Eureka Count	1	0.3%			
Fish Lake Count	1	0.3%			
Galconda Count	1	0.3%			
Gallcon Count	1	0.3%			
Gallconda Count	1	0.3%			
Geritone Count	1	0.3%			
Hawthorne Count	1	0.3%			
McCarren Count	1	0.3%			
Roundmount Count	1	0.3%			
Shurz Count	1	0.3%			
Wellington Count	1	0.3%			
Total	303	100.0%			

7. What are you carrying (see STCC list)? _____

Northbound				Southbound			
STCC Code	Description	Response	Percent	STCC Code	Description	Response	Percent
39 Count	Misc Manufacturing	75	14.8%	20 Count	Food and Kindred Products	87	15.7%
44 Count	Freight Forwarder	61	12.0%	39 Count	Misc Manufacturing	77	13.9%
20 Count	Food and Kindred Products	58	11.4%	E Count	Empty	75	13.5%
DNA	Did Not Answer	42	8.3%	7 Count	Farm Product	53	9.6%
E Count	Empty	41	8.1%	44 Count	Freight Forwarder	48	8.7%
32 Count	Stone, Clay, Glass and Concrete	32	6.3%	DNA	Did Not Answer	38	6.9%
46 Count	Misc Mixed Shipments	25	4.9%	24 Count	Lumber and Wood	28	5.1%
24 Count	Lumber and Wood	20	3.9%	28 Count	Chemicals	24	4.3%
29 Count	Petroleum and Coal Products	18	3.6%	26 Count	Pulp and Paper	18	3.2%
37 Count	Transportation Equipment	17	3.4%	32 Count	Stone, Clay, Glass and Concrete	18	3.2%
28 Count	Chemicals	15	3.0%	28 Count	Chemicals	17	3.1%
43 Count	Mail, Express and other Contract	15	3.0%	43 Count	Mail, Express and other Contract	15	2.7%
26 Count	Pulp and Paper	14	2.8%	27 Count	Printed Matter	13	2.3%
22 Count	Textile Mill Products	11	2.2%	29 Count	Petroleum and Coal Products	12	2.2%
7 Count	Farm Product	10	2.0%	33 Count	Primary Metal Products	7	1.3%
25 Count	Furniture and Fixtures	9	1.8%	37 Count	Transportation Equipment	7	1.3%
34 Count	Fabricated Metal Products	9	1.8%	35 Count	Machinery, excluding Electrical	4	0.7%
36 Count	Electrical Machinery	9	1.8%	22 Count	Textile Mill Products	3	0.5%
33 Count	Primary Metal Products	8	1.6%	25 Count	Furniture and Fixtures	3	0.5%
35 Count	Machinery, excluding Electrical	6	1.2%	14 Count	Nonmetallic Minerals, excluding Fuels	2	0.4%
14 Count	Nonmetallic Minerals, excluding Fuels	4	0.8%	34 Count	Fabricated Metal Products	2	0.4%
10 Count	Metallic Ore	3	0.6%	10 Count	Metallic Ore	1	0.2%
9 Count	Fresh Fish/Marine Products	1	0.2%	23 Count	Apparel	1	0.2%
23 Count	Apparel	1	0.2%	36 Count	Electrical Machinery	1	0.2%
27 Count	Printed Matter	1	0.2%	Total		554	100.0%
30 Count	Rubber	1	0.2%				
38 Count	Instruments	1	0.2%				
Total		507	100.0%				

The intent of Question 7 was to identify the types of good being transported along the subject corridor. The Standard Transportation Commodity Classification (STCC) codes were used to categorize the type of goods surveyed. The STCC codes are provided in Appendix C. Based on the results of the survey, the most common types of good include: miscellaneous manufacturing, general freight, food/kindred products farm products, and empties.

8. Why did you or your dispatcher choose this route?

Northbound

- Truck based on this route - 2%
- Trip stop/start on this route – 11%
- Shortest/fastest route – 73%
- Better weather – 1%
- Least congestion – 1%
- Easier grades/road conditions – 3%
- Personal business – 1%
- Other – 0%

Southbound

- Truck based on this route – 2%
- Trip stop/start on this route – 4%
- Shortest/fastest route – 72%
- Better weather – 1%
- Least congestion – 3%
- Easier grades/road conditions – 3%
- Personal business – 1%
- Other -1%

The results from survey question 8 indicate that the majority of trucks (72%-73%) use the US-395 corridor because it is the fastest/shortest route.

9. On average, how many times do you use this route?

(Per Day-4%, Per Week-62%, Per Month-34%)

Northbound Average
Per day: 1.8 Per Week: 2.8 Per Month: 2.0

Southbound Average
Per day: 1.5 Per Week: 2.4 Per Month: 2.6

The survey results indicate that most trucks use the US-395 corridor on a weekly (62%) and monthly (34%) basis with only a slight 4% on daily basis. Of the 62% of trucks who uses US-395 on a weekly basis, they average about 2-3 trips per week. Of the 34% of trucks who uses the US-395 on a monthly basis, they average 2-3 times per month.

10. Any suggestions to improve transportation for truckers in the area?

Frequent comments:

- Raise speed limit to match autos - 30%
- More rest-stops - 6%
- More lanes/passing lanes - 22%
- Bishop bypass - 2%
- Better roadway maintenance/fix potholes - 4%

In general, truck drivers had very few complaints regarding US-395. Of those who provided comments, 30% would prefer the speed limit be raised to match that of autos, 22% would like to have more lanes/passing lanes constructed.

Fleet Operator Survey

For the survey of study area trucking operations, two lists of truck fleet operators were developed. The first list included study area firms mostly engaged in private trucking (trucking the firms' own goods). The second list, which is the subject of this report, included regional and national commercial truckers (trucking goods owned by others) that serve or transit the study area.

Twenty firms were on the list; 18 participated. Ten have responded with 13 full responses (multiple responses from fleets with multiple domiciles serving the area). Of the 8 remaining, all are pending callbacks, which may occur after the date of this report. Those that responded include fleets that are generally believed to be operating the most trips in the area: FedEx Express, FedEx Freight (formerly Viking Freight), Conway Western Express, Sierra West Express, Swift Transportation (3 locations), Schneider National (2 locations), Knight Transportation, Fundis Trucking, Apex Bulk Carriers, and S.S. Hert Trucking.

Like the survey of local, private carriers, results from commercial carriers paint a consistent picture in line with industry norms. Local delivery fleets operate trips up and down US-395 using smaller trucks. They perform local pickup and delivery of parcels and less than truckload (LTL) quantities that require consolidation and distribution at a local terminal to transfer the shipments between line-haul and local vehicles. All the surveyed parcel and LTL carriers perform the assembly and distribution function in Bishop. Each serves points north on US-395 and US-6 or south on US-395 based on each day's demand, but always returns to Bishop. Each has a complementary operation serving the far northern end of US-395 based in Reno/Sparks, and a second complementary operation serving the far southern end of US-395 and SR-14 based somewhere in the Victorville/Mohave/Lancaster area. Line-haul fleets operate up and down US-395 providing one of four services.

- Feeding the local delivery parcel and LTL fleets mentioned immediately above.
- Serving local customers with regional trips to/from Southern California or Northern Nevada. These are truckload carriers responding to local demand for full load (TL) service. The trip may return to its origin or continue through to Reno/Sparks or Southern California depending on the carrier's daily dispatch situation. The bottled water movement at Olancha is an example of this although none of the carriers interviewed indicated that they participate in that movement.
- Transiting through the area with regional trips between Southern California and Northern Nevada. Both the parcel/LTL carriers and the TL carriers do this.

- Transiting through the area with interregional trips between Southern California and points in far Northern California, far Northern Nevada, Eastern Oregon and Washington, and Western and Northern Idaho. This is done by both the parcel/LTL carriers and the TL carriers

These fleets are equipped to operate in adverse weather. They stop dispatching trips only when they know in advance that a road is closed.

Study Area Fleets

Only the parcel/LTL carriers (e.g., FedEx Express, FedEx Freight) have equipment and drivers based in the study area. Those that have drivers/equipment based in the study area have small terminals in Bishop/Laws. The daily dispatch pattern tends to be out-and-back delivery trips with the route varying from day to day. All operate five days per week.

All of those with a small fleet in Bishop also have equipment and drivers in either Reno/Sparks or the Victorville/Mojave/Lancaster area; operate into and out of the study area but not all the way through to Bishop. Generally, fleets from the north come only as far south as Bridgeport, and fleets from the south only as far north as Ridgecrest. The daily dispatch pattern tends to be out-and-back delivery trips with the route varying from day to day. All operate five days per week.

Truckload carriers do not have any equipment based in the study area. Instead they are based in Southern California, Central California, Reno/Sparks/Fallon, or Oregon, Washington and Idaho. All such carriers will, on occasion, have drivers/equipment from elsewhere in the U.S. make occasional trips in the area.

Specific Operational Metrics

All respondents use US-395. Some have only intermittent trips (less than one per week); most have 5-15 trips per week each direction. The carrier reporting the most trips has 160 per week, but that estimate is deemed to be incomplete because that carrier is highly decentralized. To get a complete count for that company it would be necessary to contact 20–25 terminals/divisions. Three kinds that are in geographical proximity to US-395 were contacted, but all three are in one division. It is estimated the total number of trips operated by the entire company is in excess of 200 per week. It is unknown if any other carrier that comes close to 200 per week. Of the carriers surveyed, the next highest was 50 trips per week.

LTL/parcel carriers have 5 per week in each direction (each weekday) that serves the local area thorough terminals at Bishop/Laws. All but one of the LTL/parcel carriers also operates additional trips transiting the study area. Truckload carriers operate seven days per week with fewer trips on Sunday and Monday mornings than at other times. All are commercial carriers (carrying goods owned by others for compensation is their primary business).

South of Ridgecrest, all use US-395. All but one also uses SR-14, but use of US-395 is much greater than use of SR-14. North of Bishop, only one uses US-6, while 360 use US-395 as their primary route. All others know of that route (US-6) and sometimes (but not as a standard procedure) use it in adverse weather conditions when US-395 is closed, but none use it routinely. All mentioned that it is too circuitous.

All mention that the number of trips is dependent on which carrier currently is favored by specific shippers. That is, over a five-year period, all carriers had gained or lost some business. On the net, over five years, there appears to be an increase in trips. Carriers that use the route intermittently are truckload carriers and emphasize that usage is dependent on their underlying customers shipping (production and sales) patterns and/or special projects.

Seasonality

Because they are commercial carriers, virtually all report that October through December is the peak period and January and February the off-peak. A few truckload carriers mention that rather than seasonality, the controlling "peak" comes from major regional construction projects in process (or alternatively, no projects under construction at all).

Equipment and commodities transported

Most carriers operated dry van equipment, either semis or doubles. A small fraction operates flatbeds, liquid tanks, and/or dry bulk tanks. Because the dry van carriers are commercial carriers, they describe the goods handled in very generic terms such as dry freight; freight of all kinds, retail goods, distribution freight, and so on. Bulk carriers are much more specific but the name of the commodity transported would tend to reveal the name of the underlying shipper involved (which was not asked).

Adverse Weather

Windstorms and icy roads are the topical items for operations in adverse weather. All carriers dispatch trips into inclement weather and leave it to driver discretion to stop if conditions become too severe. If it is known that the road is closed, however, all carriers (save one) stop dispatching until the road is expected to open. A few may detour via US-6/395, and all report that they will not detour via I-80 over Donner Pass, as it is far too circuitous and just as subject to weather interruptions. If the trip is interregional, e.g., Hermiston or Spokane to Los Angeles, they may detour via I-5, as that is not as circuitous.

Comments on US-395

The comments on US-395 driving conditions were fairly consistent and favorable across all responses.

- The most common response was "nothing special to report because the drivers are not complaining about it."
- Some respondents commented that drivers like US-395, and that it is a good, well-maintained route.
- Several respondents cited the need for a truck bypass around Bishop, and several others thought there was a need for more lanes.
- Many commercial truckers mentioned the icy conditions particularly north of Lee Vining.
- The good communications that Caltrans sponsors announcing road conditions.
- The addition of wider lanes and shoulders in recent years.

Truck Growth

Several sources were used to estimate the potential growth in truck volumes within the US-395 corridor. They include:

- California Department of Finance Projections
- US Census Projections
- Southern California Population Projections
- Northern Nevada Population Projections
- Southern California Association of Governments (SCAG) - Travel Demand Forecasts

As population increases, demand for goods to sustain this growth also increases, which directly translates to increase in truck traffic. Therefore, population growth is a key indicator/factor in estimating potential truck growth. Based on the California Department of Finance Projections, Inyo County is expected to have minimal growth. Mono County is expected to average 0.8% annual growth and Kern County at 1.7% annual growth. The table below summarizes these projections by county through year 2050.

CALIFORNIA DEPARTMENT OF FINANCE PROJECTIONS

	Inyo	Mono	Inyo + Mono	Kern	Inyo+ Mono + Kern
2000	18,257	12,939	31,196	664,694	695,890
2010	18,396	14,705	33,101	808,808	841,909
2020	18,404	16,248	34,652	950,112	984,764
2030	18,256	17,471	35,727	1,114,878	1,150,605
2040	17,899	18,178	36,077	1,325,648	1,361,725
2050	17,699	18,862	36,561	1,549,594	1,586,155
CAGR	**-0.1%**	**0.8%**	**0.3%**	**1.7%**	**1.7%**

Based on US Census, California and Nevada population is expected to grow at a rate of 1.1% and 1.3% annually, respectively. The table below summarizes these projections. As can be seen, California and Nevada expected growth rates are comparable to the national average of 0.9%. The three counties of Inyo, Mono and Kern (total average annual growth of 1.7%) are projected to be slightly higher as compared to the national average.

US CENSUS PROJECTIONS

Census 2000 State	2000 Census Population	2030 Projections Population	CAGR
United States	**281,421,906**	**363,584,435**	**0.9%**
California	33,871,648	46,444,861	**1.1%**
Nevada	1,998,257	2,940,084	**1.3%**

U.S. Census Bureau, Population Division, Interim State Population Projections, 2005.
Internet Release Date: April 21, 2005

Further breakdown of population forecasts were conducted for Southern California counties as well as Northern Nevada counties. The table below summarizes population projections within each of the respective counties.

Southern California Counties							
	2000	2010	2020	2030	2040	2050	CAGR
LOS ANGELES	9,559,635	10,461,007	10,885,092	11,236,734	11,380,841	11,423,198	0.4%
ORANGE	2,854,026	3,260,162	3,526,144	3,665,343	3,704,802	3,702,641	0.5%
RIVERSIDE	1,553,902	2,165,148	2,675,648	3,180,411	3,717,961	4,305,161	2.1%
SAN BERNARDINO	1,719,615	2,133,377	2,456,089	2,762,307	3,029,750	3,289,254	1.3%
Total	**15,687,178**	**18,019,694**	**19,542,973**	**20,844,795**	**21,833,354**	**22,720,254**	**0.7%**

Northern Nevada Population Projections

County	2003	2010	2020	CAGR
Carson City	55,220	58,840	64,119	0.9%
Douglas	45,603	50,383	58,635	1.5%
Esmerelda	1,116	890	874	-1.4%
Mineral	4,687	3,597	2,695	-3.2%
Washoe	373,233	415,402	466,546	1.3%
Total	**481,862**	**531,122**	**594,889**	**1.2%**

Based on the forecasts shown above, the Southern California region which includes the counties of Los Angeles, Orange, Riverside and San Bernardino is expected to grow at an average of 0.7% annually. The Northern Nevada region is expected to grow at an average of 1.2% annually. Growth rate within both these regions are comparable to the national trend of 0.9% annually.

Research into national goods movement trend also reveals the following:

- Nationally, truckload business tonnage is expected to grow at 2.9% through 2010 and at 2.5% form 2011 to 2016.
- Less-than-truckload business is forecasted to grow at 3.3% through 2010 and at 2.8% from 2011 to 2016.
- Private trucking is expected to grow at 2.5% through 2010 and at 2.2% from 2011 to 2016, due partly to outsourcing to for-hire carriers.
- Growth in the number of study area truck trips is expected to follow the national trends, about 1.8% annually.

Additional research also reveals that US-395 corridor historically averages about 1.2% per year in truck growth which is also consistent with SCAG's 2030 travel demand forecast of US-395 and SR-14 within northern Los Angeles County of 1.2%.

Based on research from multiple available sources discussed previously, it can be concluded that truck growth along the US-395 corridor can be expected to range between the historical and SCAG projected trend of 1.2% per year to the national average of 1.8% per year. The graph below provides a straight-line interpolation of these trends to year 2030. Based on this projection, in 2030, daily truck volumes along US-395 is expected to range between 1,400 truck trips per day to almost 1,900 truck trips per day.